

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

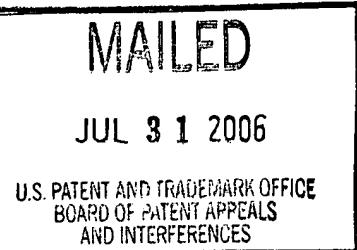
Ex parte K. UMIT YUKSEL, ANA T. BIRD
and KIRBY S. BLACK

Appeal No. 2006-0272
Application No. 09/986,124

ON BRIEF

Before ADAMS, MILLS, and LEBOVITZ, Administrative Patent Judges.

MILLS, Administrative Patent Judge.



DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 30-47 and 53-54, which are all of the claims on appeal in this application. Claims 30 and 38 are representative and read as follows:

30. A kit for forming a solid cellular foam proteinaceous biopolymeric material comprising separate reactable aliquot portions consisting of a first aqueous solution containing a proteinaceous material, and a second aqueous solution which is reactable with the proteinaceous component of the first aqueous solution to form a solid proteinaceous biopolymeric material in response to mixing of said first and second aqueous solutions, wherein the first aqueous solution includes a blowing agent, and wherein said second aqueous solution includes an acidic titrant reactable on contact with the blowing agent sufficient to evolve gas to impart a cellular foam structure to the proteinaceous biopolymeric material concurrently while said proteinaceous material of said first aqueous solution reacts with

Appeal No. 2006-0272
Application No. 09/986,124

said second aqueous solution to form said solid proteinaceous biopolymeric material.

38. The kit of claim 30, wherein the acidic titrant is at least one acid selected from the group consisting of phosphoric acid, sulfuric acid, hydrochloric acid, acetic acid and citric acid.

The prior art references cited by the examiner are:

Wang	5,922,379	Jul. 13, 1999
Fattman et al. (Fattman)	6,236,524	Dec. 4, 2001
Nussinovitch	6,589,328	Jul. 8, 2003

Grounds of Rejection

Claims 30 and 38 stand rejected under 35 U.S.C. § 102(e) as anticipated by Nussinovitch.

Claims 30-47 and 53-54 stand rejected under 35 U.S.C. § 103(a) over Nussinovitch in view of Wang and Fattman.

We reverse these rejections.

DISCUSSION

Anticipation

Claims 30 and 38 stand rejected as anticipated by Nussinovitch.

To anticipate a claim, a prior art reference must disclose every limitation of the claimed invention, either explicitly or inherently. In re Schreiber, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997).

According to the examiner, Nussinovitch teaches

biodegradable foams (abstract) made by combining a solution of alginate and calcium carbonate with a solution of citric acid (example 1 column 5).

Appeal No. 2006-0272
Application No. 09/986,124

Gelatin, which is proteinaceous, is specified as equivalent to alginate (column 3 line 47). Medicinal sponges are disclosed (column 1 line 14), Generation of carbon dioxide is specified (example 1 column 5), indicative of the role of carbonate as a blowing agent.

Answer, page 5.

In response, appellants argue (Brief, page 4)

the first and second aqueous solutions to the present invention are in fact separate from one another and that the first aqueous solution includes the proteinaceous material and one of a blowing agent or a titrant, while the second aqueous solution in accordance with the present invention comprises a component with is reactable with the proteinaceous material of the first solution and the other of the blowing agent or the titrant. Thus, concurrently with the reaction between the proteinaceous material of the first solution with the reactable component of the second solution in response to mixing of the two solutions, the blowing agent and titrant will likewise react to evolve a gas to impart a cellular foam structure to the otherwise solid proteinaceous biopolymeric material.

Therefore, the appellants conclude that the two solutions of Nussinovitch do not contain the required components of the claims. "There is absolutely no disclosure. . . in Nussinovitch whereby one part of a two-part reactable solution kit contains both a proteinaceous material and a blowing agent, and wherein a second part of the two-part reactable solution kit comprises both a solution which is reactable with the proteinaceous material to form a biopolymeric material, and an acidic titrant reactable with the blowing agent sufficient to impart a cellular foam structure to thereto." Brief, page 5.

The standard under § 102 is one of strict identity. "Under 35 U.S.C. § 102, every limitation of a claim must identically appear in a single prior art reference for it to anticipate the claim." Gechter v. Davidson, 116 F.3d 1454, 1457, 43 USPQ2d 1030, 1032 (Fed. Cir. 1997). "Every element of the claimed invention must be literally

Appeal No. 2006-0272
Application No. 09/986,124

present, arranged as in the claim." Richardson v. Suzuki Motor Co., Ltd., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

We do not find the examiner has presented evidence to support a prima facie case of anticipation. In particular, Nussinovich discloses in Example 1 (column 5), the preparation of an air-filled gel from five primary ingredients, as listed in the table in the example. The proteinaceous material, sodium alginate is, at best, mixed with calcium hydrogen orthophosphate, calcium carbonate and water. This solution is later mixed with citric acid solution. Nussinovich, however, does not disclose a second solution that is reactable with the proteinaceous component of the first aqueous solution to form a solid proteinaceous biopolymeric material in response to mixing of said first and second aqueous solutions. Instead, as we understand it, Nussinovich's "second solution" is a 2% citric acid solution. Nussinovich, column 5, line 40. In contrast, according to appellants' [specification and] claims, the second solution comprises two components (1) a solution which is reactable with the proteinaceous component of the first aqueous solution to form a solid proteinaceous biopolymeric material in response to mixing the first and second aqueous solutions, e.g. solution that comprises di- or polyaldehydes (see claim 30, and specification, pages 4-5); and (2) an acidic titrant.

We find no teaching in Nussinovich of a component in the second aqueous solution which is reactable with the proteinaceous component of the first solution, as required by appellants' claimed invention. In view of the above, the rejection for anticipation is reversed.

Appeal No. 2006-0272
Application No. 09/986,124

Obviousness

Claims 30-47 and 53-54 stand rejected under 35 U.S.C. § 103(a) over Nussinovitch in view of Wang and Fattman.

In rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a prima facie case of obviousness. See In re Rijckaert, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993). A prima facie case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art. In re Bell, 991 F.2d 781, 783, 26 USPQ2d 1529, 1531 (Fed. Cir. 1993). An obviousness analysis requires that the prior art both suggest the claimed subject matter and reveal a reasonable expectation of success to one reasonably skilled in the art. In re Vaeck, 947 F.2d 488, 493, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991). With this as background, we analyze the prior art applied by the examiner in the rejection of the claims on appeal.

The disclosure of Nussinovitch is set forth above. As discussed herein, Nussinovitch, does not disclose a second solution that is reactable with the proteinaceous component of the first aqueous solution to form a solid proteinaceous biopolymeric material in response to mixing of said first and second aqueous solutions. The examiner also acknowledges that Nussinovitch does not teach “glutaraldehyde as a crosslinker, ammonium bicarbonate as a blowing agent or fibers.” Answer, page 4.

The examiner attempts to make up for the deficiencies of Nussinovich with reliance on Wang for teaching (1) biodegradable foams comprising protein, (2) that albumin and gelatin are equivalents (column 3, line 50), (3) that bicarbonate and citric acid generate carbon dioxide (column 5, lines 39-40), (4) that crosslinking with glutaraldehyde provides rigidity (column 7, line 15), and, that protein and starch compositions can be reinforced with natural fibers (column 6, lines 29-30). Answer, page 5. The examiner relies on Fattman for the disclosure that ammonium bicarbonate is an equivalent to a calcium carbonate blowing agent (column 3 lines 36-48). Id.

We do not find the examiner has provided sufficient evidence to support a prima facie case of obviousness. The examiner has not indicated, and we do not find where the additional cited references, Wang and Fattman, overcome the stated deficiency of Nussinovich. Nussinovich does not disclose a second solution that is reactable with the proteinaceous component of the first aqueous solution to form a solid proteinaceous biopolymeric material in response to mixing of said first and second aqueous solutions.

While we agree with the examiner that Wang discloses that glutaraldehyde may be used as a cross-linking agent to form bridges between the side chains of protein or starch cellulosic fibers, we do not find the examiner indicates or Wang and/or Fattman provides any reason, suggestion or motivation to provide the glutaraldehyde in a second aqueous solution separate from the proteinaceous material, or to provide a

Appeal No. 2006-0272
Application No. 09/986,124

glutaraldehyde component reactable with the proteinaceous material in combination with the acidic titrant in the second aqueous solution. Thus, Wang and Fattman fail to overcome the deficiencies of Nussinovich.

In view of the above, the rejection of the claims for obviousness over Nussinovich in view of Wang and Fattman is reversed.

CONCLUSION

Therefore, the rejection of claims 30 and 33 under 35 U.S.C. § 102(e) over Nussionovitch is reversed. The rejection of the claims under 35 U.S.C. § 103(a) over Nussinovitch in view of Wang and Fattman is reversed.

REVERSED

Appeal No. 2006-0272
Application No. 09/986,124

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